What is the difference between human time and cat time

Paper by Antony T./Glimmerant

Chapter 1. The idea of a faster internal clock

Many animals register changes in the world at different speeds. One measurable window onto this is the critical flicker fusion frequency. This is the highest rate at which a flickering light still looks like separate flashes instead of a steady glow. Species with higher values can separate more visual events per second and therefore resolve the world on a finer timescale. Studies in humans commonly place this limit around about 50 to 60 cycles per second under bright conditions. Measurements in cats report values from roughly the high 50s to around 70 to 80 cycles per second depending on luminance and method, indicating that cats can register more distinct visual events in the same physical second. This supports the simple working claim that a given external interval contains more internal “ticks” for a cat than for a human.

Chapter 2. Why body size and metabolism matter

Across many vertebrates, temporal resolution tends to scale with body size and metabolic rate. Smaller, higher-metabolism species generally have higher flicker fusion thresholds and faster temporal processing. This pattern has been shown in a comparative analysis that collated time-resolution data across taxa. Domestic cats are smaller than humans and have higher mass-specific metabolic rates, which is consistent with faster temporal resolution. This does not prove a single universal clock but it anchors the expectation that cat time runs a bit “faster” than human time in the sense of event resolution.

Chapter 3. Internal timing theories that fit both species

Laboratory timing models such as scalar expectancy theory describe an internal pacemaker that emits pulses which are accumulated and compared against memories of duration. These models predict proportional, not absolute, timing errors across species and tasks. If the pacemaker emits pulses faster, more pulses accumulate in the same external interval and that interval is judged longer. A faster cat pacemaker therefore implies that the same physical second would register as a slightly longer subjective moment for a cat than for a human.

Chapter 4. Other biological correlates

Cardiovascular and lifespan correlates sometimes track with perceived time rate but are cruder proxies. Adult cats typically have higher resting heart rates than adult humans, suggesting faster physiological tempo, while average domestic cat life expectancy is shorter than human life expectancy. These correlates are compatible with a faster internal clock, but they are not direct measures of time perception and are used here only as supporting context.

Chapter 5. Turning the science into a usable conversion

A cautious conversion can be built from visual temporal resolution because it is directly about how rapidly events can be distinguished. Using 60 cycles per second as a representative bright-light human value and 70 cycles per second as a midrange cat value within published measurements, the ratio is about 70 divided by 60 which equals 1.17. Interpreted with the

internal clock model, a human interval would feel about 17 percent longer to a cat. Because cat measurements span roughly 58 to 80 depending on conditions and methods, a reasonable uncertainty band is about 1.0 to 1.3. The point estimate below uses 1.2 as a round number that stays within the published range and captures the direction of difference without overstating precision.

Chapter 6. How long a human second, minute, hour, day, and week is for cats
Using the 1.2 multiplier described above

One human second is about 1.2 cat seconds
One human minute is about 1.2 cat minutes which is about 72 cat seconds
One human hour is about 1.2 cat hours which is about 72 cat minutes
One human day is about 1.2 cat days which is about 28.8 cat hours
One human week is about 1.2 cat weeks which is about 8.4 cat days

These numbers express subjective comparative pacing, not a different physical time. They are approximate and most applicable to alert, bright-light conditions where visual temporal resolution is typically measured.

Small biography and links to sources

Critical Flicker Fusion Frequency A Narrative Review

https://pmc.ncbi.nlm.nih.gov/articles/PMC8537539/

Critical Flicker Fusion overview with typical human values near 60 Hz

https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/critical-flicker-fusion

Assessing Critical Flicker Fusion Frequency methods and ranges in humans

https://pmc.ncbi.nlm.nih.gov/articles/PMC10141404/

Critical flicker fusion in normal and binocularly deprived cats reporting a normal cat value near 58 Hz

https://www.sciencedirect.com/science/article/pii/0042698980901418

Light adapted cat retinal ganglion cells reporting fusion near 70 to 80 Hz

https://www.jneurosci.org/content/jneuro/13/4/1543.full.pdf

Metabolic rate and body size are linked with perception of temporal information across animals

PubMed record https://pubmed.ncbi.nlm.nih.gov/24109147/

Open access PDF
https://www.openphilanthropy.org/files/Research/Moral_Patienthood/Healy_et_al_%282013%29.pdf

Scalar expectancy theory and related timing frameworks

Overview with references to Gibbon 1977

https://pmc.ncbi.nlm.nih.gov/articles/PMC6666014/

Summary entry

https://en.wikipedia.org/wiki/Scalar_expectancy

Typical resting heart rates across species including cats

https://www.merckvetmanual.com/multimedia/table/resting-heart-rates

Additional practical ranges for cat heart rate

https://www.redcross.org/take-a-class/resources/learn-pet-first-aid/cat/normal-temperature-heart-breathing-rate

Recent life table analysis for companion cats

https://pmc.ncbi.nlm.nih.gov/articles/PMC11156239/